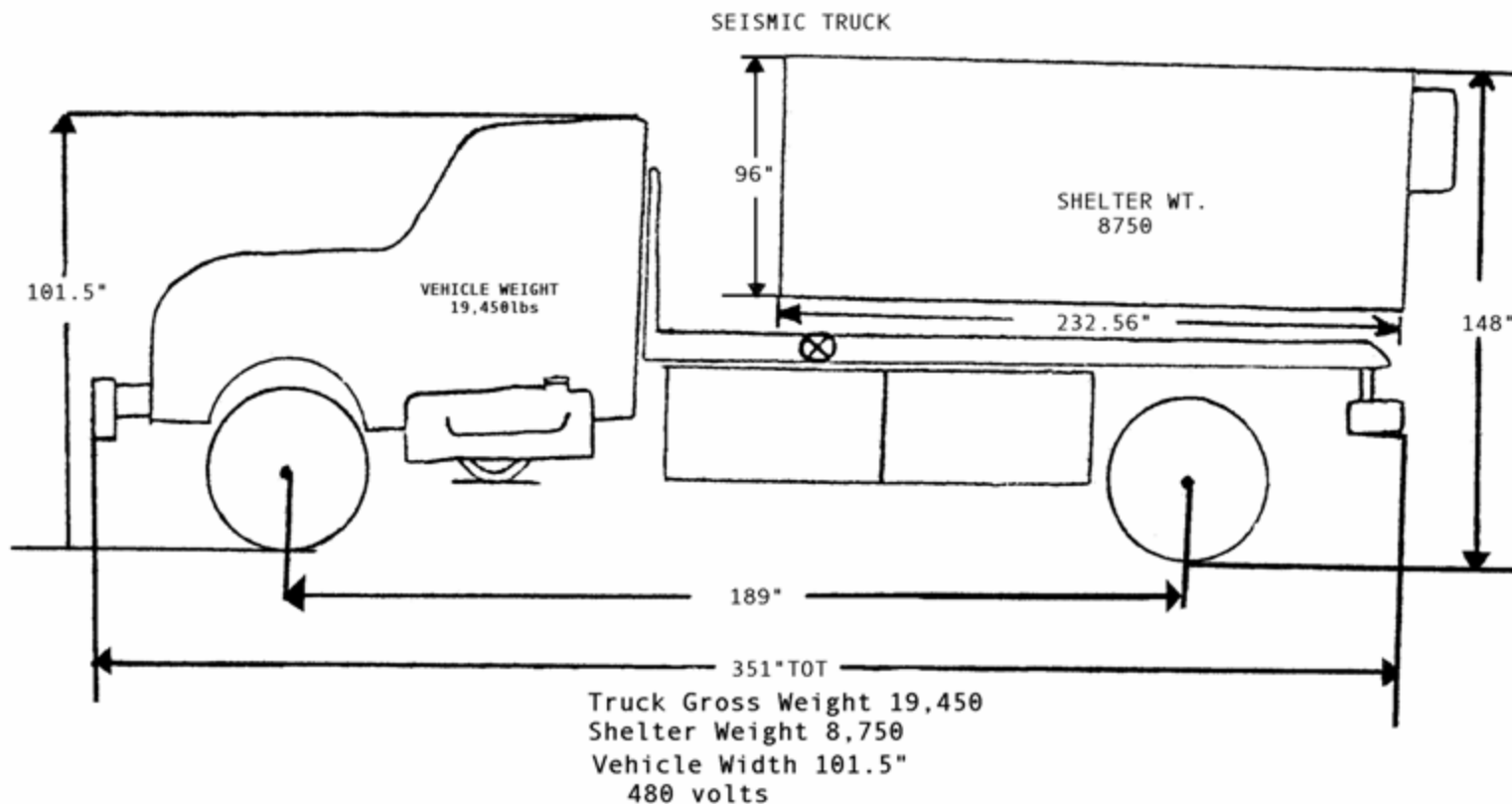


Mine Emergency Operations

The Seismic Location System



Mine Emergency Operations Seismic Location System



The Seismic Location System

The seismic location system is truck mounted and is capable of detecting and locating the source of seismic vibrations produced by trapped miners. Miners may generate seismic signals by pounding on mine surfaces such as the roof, floor, or ribs. These signals are detected by sensors installed either on the surface or underground. The system is capable of detecting signals at a range of 1500 feet, and can monitor approximately 1 square mile over most mines (depending upon terrain). The system is highly mobile, and can be air lifted. The system operates on 480 volts 3phase that can be supplied by the generators on board the MSHA mine emergency operations auxiliary truck.

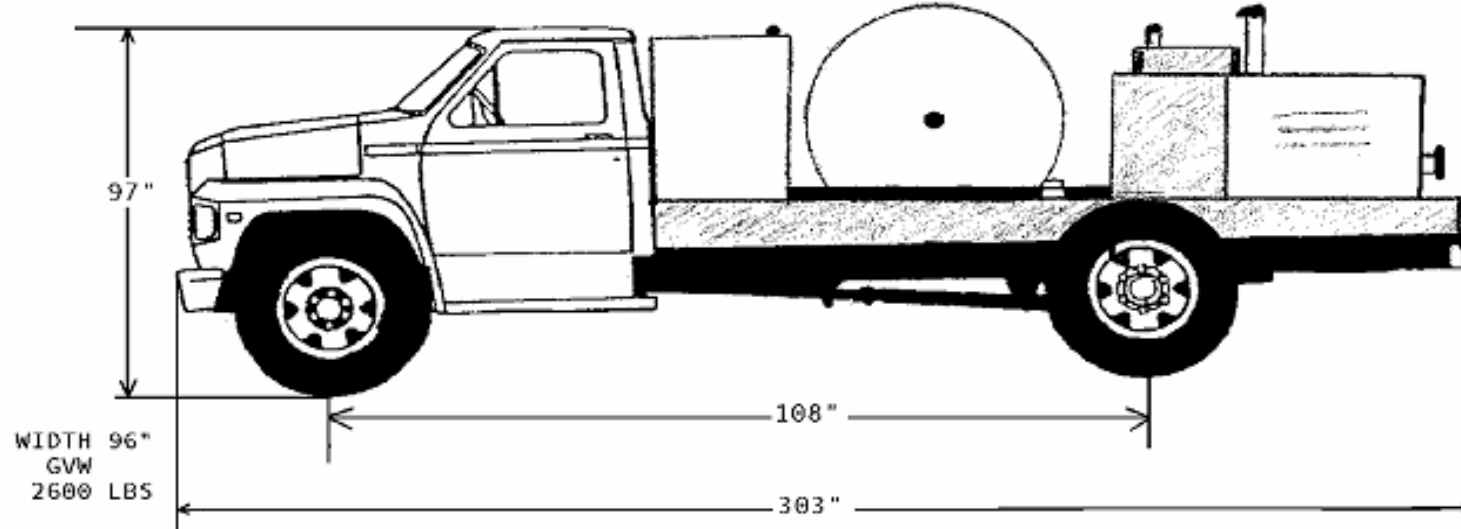
Mine Emergency Operations

Auxiliary Truck



The Auxiliary Truck

Weights and dimensions



The Auxiliary Truck

The Auxiliary Truck Is used to power the Seismic Location System during a deployment. The vehicle is equipped with two on board generators. One generator is used to operate a cable reel and the main generator will deliver 480 volts and 60amps of power. This vehicle also has enough fuel storage to operate the system for four days. Spare cables are stored on board that can be used to run power to other equipment that may be needed during a deployment.

TV PROBE TRUCK



Gross Vehicle weight 22,000

Height 97-1/2"

Length 284"

Width 95"

L-9255

OPERATES ON 480 V 60amp 3 phase and 220 V 40 amp single phase.

The Mine Emergency Operations TV PROBE

The TV probe system is a self-contained system consisting of two complete permissible TV probes. Each probe has remote focus, zoom lens, and remote iris adjustments. The system has dual monitoring consoles, and a video tape capability. The complete system is air transportable and can operate at a depth of 1500 feet. The TV probe operates on 480 volts 3 phase 60 amps. We can also operate with 220 volts 40 amps for demonstration purposes only.

MSHA Rescue Capsule



MSHA Rescue Capsule

The capsule consists of a main personnel section that can be attached to hoisting systems, such as a portable cranes, etc. There is a supplies/materials section that can be attached to the bottom of the primary section to provide enhanced flexibility.

The personnel section weighs 650 pounds and is 21.5 inches in diameter by 92 inches tall. The supplies/materials section is 37 inches long. The personnel compartment, which is designed to carry one person, contains a vertical sliding access door that is 19 inches wide by 36 inches tall. The internal diameter of each unit is 19 inches. The system is designed to be used in a cased borehole with a minimum diameter of 24 inches.

The system utilizes an internal release bottom with safety catches that can be dropped off should the capsule become stuck in the hole. The personnel section contains a harness with a controlled decent device for lowering the miner back to the mine level.

Two-way communications systems are available for use from the capsule to the surface.



1994 CHAPPARRAL COMMAND VEHICLE - L-9262

LENGTH - 39 FT. 6 IN.

HEIGHT - 13 FT. 2 IN.

WIDTH - 8 FT. 6 IN.

CURB WEIGHT - 23,400 LBS

POWER NEEDED - 50 AMP 220 V SINGLE PHASE AC

Command Vehicle Interior

Computer Work Area, Communications Center, and Conference Area





1972 INTERNATIONAL COMMAND VEHICLE - L-8346

LENGTH - 28 FT. 6 IN.

HEIGHT - 10 FT. 10 IN.

WIDTH - 8 FT. 6 IN.

CURB WEIGHT - 12,500 LBS

POWER NEEDED - 40 AMP 220 V SINGLE PHASE AC

The Mobile Command Centers

These vehicles are used during mine emergencies. The vehicles are specially equipped for a quick, temporary MSHA on-site headquarters to meet and address the mine emergency. These vehicles are setup with communication equipment, conference facilities, and mobile office equipment.



1994 FORD F-600 TEAM TRUCK - L-9266

LENGTH - 33 FT. 6 IN.

HEIGHT - 13 FT.

WIDTH - 8 FT. 6 IN.

CURB WEIGHT - 18,700 LBS

POWER NEEDED - 50 AMP 220 V SINGLE PHASE AC

The Mine Emergency Unit Team Truck

This vehicle is used during mine emergencies to give the MSHA mine rescue team members a place to store and work on emergency equipment. This vehicle is used by the Coal MEU team members which consist of trainers, a team leader and a mine rescue specialist. The team is headed up by a coordinator. This team is highly trained and qualified in the use of specialized equipment such as emergency breathing apparatus, hand-held gas detection equipment and specialized communication equipment.

ELECTRICAL TRUCK



1994 FORD E-350

Height :108” Length: 303” Width:98”

Weight 13,360 LBS.

Power: 220V 60 amps single phase

L-9259

Electrical Truck

The electrical truck is used at mine sites to monitor electrical systems or problems that may occur. The electrical van can be outfitted with monitoring equipment to test mine equipment such as elevators and hoist systems. This vehicle is also used as a utility vehicle and could be outfitted as a ventilation station and a gas analysis station.

Gas Analysis Van



1990 GMC Champion RV

Operates on 480 volts 3 phase or 220 single phase

L-9256

Gas Analysis Van

Gas samples taken from mine atmosphere by bottles and syringes, can be analyzed by MSHA personnel on-site using equipment installed in the mobile gas van. Equipment capability includes two portable gas chromatographs which can analyze samples for a variety of gas constituents including: methane, ethane, propane, acetylene, oxygen, nitrogen, hydrogen, carbon dioxide, carbon monoxide, and other low weight hydro-carbons. A robotic gas analyzer is installed in the vehicle for analyzing gases on a continual basis. This system can process 4-6 samples per hour.

VENTILATION VAN



1994 FORD E-350

Height: 108" Length: 286" Width: 98"

Weight: 13,100 LBS.

Power: 220V 60Amps.

L-9258

Ventilation Van

The ventilation van is operated by the MSHA Technical Support Ventilation division which provides expertise in utilizing gas and air flow sampling techniques and interpretation of the results of gas sample analyses. The vehicle is used at mine sites and carries a variety of instrumentation used for continuous sampling and recording of mine gases, including infra-red and electrochemical analyzers.